

# ABSTRACT

A CVD apparatus produces plasma to generate radicals and uses the radicals, silane, and the like so as to deposit films on substrates in a vacuum vessel 12. The vacuum vessel has a partitioning wall section 14 for separating the inside thereof into a plasma-generating space 15 and a film deposition process space 16. The partitioning wall section has a plurality of through-holes 25 and diffusion holes 26. An interior space 24 receives the silane or the like fed into the film deposition process space through diffusion holes 16. The radicals produced in the plasma-generating space are fed into the plasma-generating space through the through-holes. The through-holes satisfy the condition of  $uL/D > 1$ , where  $u$  represents the gas flow velocity in the through-holes,  $L$  represents the effective length of the through-holes, and  $D$  represents the inter-diffusion coefficient.